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EXAMINER

SHEPARD, JUSTIN E

ART UNIT

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2617

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/719,128	Applicant(s) YUEN ET AL.	
	Examiner Justin E. Shepard	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-62 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 30-62 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed November 14th, 2005 have been fully considered but they are not persuasive.

The applicant argues that using a hash function as a searching tool, as taught by Schein, does not meet the limitations of the claims. The examiner disagrees. The "Microsoft Computer Dictionary" definition of hashing data reads: "to be mapped to a numerical value by transformation known as a hashing function. Hashing is used to convert an identifier or key, meaningful to a user, into a value for the location of the corresponding data in a structure, such as a table. For example, given the key MOUSE and a hashing function that added up the ASCII values of the characters, divided by 127, and took the remainder, MOUSE would hash to 12 and the data identified by MOUSE would be found among the items in entry 12 in the table." Using this definition it is obvious to see that MOUSE would not be alone in the number 12 entry of the table. Therefore if one were to search for the term MOUSE in the table and entry 12 in the table was empty, then a person would not then search entry 12 in the table for the term MOUSE. On the other hand, if entry 12 were not empty this would require another search, as data existing in entry 12 does not guarantee that the word MOUSE is contained in the table. If one thinks about hashing data as assigning a label to the data to make it easier to search for the data, then one will see that assigning a unique label (one that is mutually exclusive to that word) would defeat the purpose of hashing the data at all. The examiner states that searching using a hashing function would require 2

searches. The first would be applying the search term to the hashing function a performing a search, and the second would be performing a search for the term among the data found in the hash search. Therefore the rejections stand as originally stated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Markandey.

Referring to claim 30, Schein discloses a method for displaying television program information comprising (column 2, lines 21-22): storing in memory television program data including a hash portion and a data portion (column 7, lines 52-59); receiving a user request for television programs having a particular search criterion (column 19, lines 22-24); searching the hash portion of the television program data for the search criterion (column 12, lines 5-10); excluding the television program data from a search of the data portion of the television program data if no match of the search criterion is made in the hash portion (Note: by definition of searching a hash function, a limited search is performed of the hash data, and then if results are found another search of the actual data is performed; therefore the search would not be continued if the hash search did not net any results); searching the data portion of the television

program data for the search criterion if a match of the search criterion is made in the hash portion (Note: by definition of searching a hash function, a limited search is performed of the hash data, and then if results are found another search of the actual data is performed); and transmitting results of the search of the data portion of the television program (column 11, lines 45-46).

Schein does not disclose a method where header data is used in place of hash data.

Markandey discloses a method for transmitting hash values in a header (column 6, lines 20-21).

At the time of the invention it would have been obvious for a person of ordinary skill in the art to send the hash data in a header transmitted with the video data being transmitted. The motivation for doing this would be to perform the hash function on a remote computer with an excess of computing power instead of locally on the subscriber box, which might tax the processor.

Referring to claim 31, Schein discloses a method of claim 30, wherein the data portion includes program information of television programs to be broadcast by a particular channel (column 9, lines 30-31).

Referring to claims 32 and 33, Schein discloses a method of claim 30, wherein the header portion indicates one or more program categories of one or more television programs (column 10, lines 13-14), wherein the one or more program categories are represented by one or more indexing bits (figure 7B; Note: the index ID is shown as taking up 2 bytes, or 16 bits).

Referring to claims 34 and 35, Schein discloses a method of claim 30, wherein the header portion indicates one or more first letters of one or more television programs (column 10, lines 2-3), wherein the one or more first letters are represented by one or more indexing bits (figure 7A).

Referring to claim 36, Schein discloses a method of claim 30, wherein the search criterion is a program category (column 11, lines 15-20).

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Markandey as applied to claims 30-36 above, and further in view of Noble.

Schein does not disclose a method of claim 30, wherein the search criterion is a first letter of a program title.

Noble discloses a method of claim 30, wherein the search criterion is a first letter of a program title (column 11, lines 6-11).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the method of searching for the first letter of a title to the method disclosed by Schein and Markandey. The motivation for doing this would have been to simplify the hash function by implementing it by stripping the first letter off of the title, therefore simplifying the computation burden of the hash function.

Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Markandey as applied to claims 30-36 above, and further in view of Etheredge.

Referring to claim 38, Schein does not disclose a method of claim 30, wherein the storing of the television program data comprises: determining whether the television program data is associated with a predetermined storage criterion; and storing the television program data in a schedule database only if the television program data is associated with a predetermined storage criterion.

Etheredge discloses a method of claim 30, wherein the storing of the television program data comprises: determining whether the television program data is associated with a predetermined storage criterion; and storing the television program data in a schedule database only if the television program data is associated with a predetermined storage criterion (column 8, lines 54-59, 64-66: Note: having a local server only download the information from a "far" server is being interpreted as only downloading the requested data on the client side as the client would not be able to download it if it does not exist on the local server).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to only download the data required as disclosed in Etheredge. The motivation for doing this would have been to reduce the amount of data that the search function would need to search through therefore enabling it to search quicker than if it didn't selectively download programming data.

Referring to claim 39, Schein does not disclose a method of claim 38, wherein the predetermined storage criterion is a program category.

Etheredge discloses a method of claim 38, wherein the predetermined storage criterion is a program category (column 11, lines 22-27).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to only download the data required as disclosed in Etheredge. The motivation for doing this would have been to reduce the amount of data that the search function would need to search through therefore enabling it to search quicker than if it didn't selectively download programming data.

Referring to claim 40, Schein does not disclose a method of claim 38, wherein the predetermined storage criterion is a channel that has been enabled.

Etheredge discloses a method of claim 38, wherein the predetermined storage criterion is a channel that has been enabled (column 21, lines 17-21).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to only download the data required as disclosed in Etheredge. The motivation for doing this would have been to reduce the amount of data that the search function would need to search through therefore enabling it to search quicker than if it didn't selectively download programming data.

Claims 41-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Markandey.

Referring to claim 41, Schein discloses an apparatus for displaying television program information comprising (column 2, lines 21-22): a memory storing television program data including a hash portion and a data portion (column 7, lines 52-59); means for receiving a user request to display a program guide with television programs having a particular search criterion (column 19, lines 22-24); means for searching the

hash portion of the television program data for the search criterion (column 12, lines 5-10); means for excluding the television program data from a search of the data portion of the television program data if no match of the search criterion is made in the hash portion (Note: by definition of searching a hash function, a limited search is performed of the hash data, and then if results are found another search of the actual data is performed; therefore the search would not be continued if the hash search did not net any results); means for searching the data portion of the television program data for the search criterion if a match of the search criterion is made in the hash portion (Note: by definition of searching a hash function, a limited search is performed of the hash data, and then if results are found another search of the actual data is performed); and means for transmitting results of the search of the data portion of the television program (column 11, lines 45-46).

Schein does not disclose an apparatus where header data is used in place of hash data.

Markandey discloses an apparatus that transmits hash values in a header (column 6, lines 20-21).

At the time of the invention it would have been obvious for a person of ordinary skill in the art to send the hash data in a header transmitted with the video data being transmitted. The motivation for doing this would be to perform the hash function on a remote computer with an excess of computing power instead of locally on the subscriber box, which might tax the processor.

Referring to claim 42, Schein discloses an apparatus of claim 41, wherein the data portion includes program information of television programs to be broadcast by a particular channel (column 9, lines 30-31).

Referring to claims 43-44, Schein discloses an apparatus of claim 41, wherein the header portion indicates one or more program categories of one or more television programs (column 10, lines 13-14), wherein the one or more program categories are represented by one or more indexing bits (figure 7B; Note: the index ID is shown as taking up 2 bytes or 16 bits).

Referring to claims 45-46, Schein discloses an apparatus of claim 41, wherein the header portion indicates one or more first letters of one or more television programs (column 10, lines 2-3), wherein the one or more first letters are represented by one or more indexing bits (figure 7A).

Referring to claim 47, Schein discloses an apparatus of claim 41, wherein the search criterion is a program category (column 11, lines 15-20).

Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Markandey as applied to claims 41-47 above, and further in view of Noble.

Schein does not disclose an apparatus of claim 41, wherein the search criterion is a first letter of a program title.

Noble discloses an apparatus of claim 41, wherein the search criterion is a first letter of a program title (column 11, lines 6-11).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the method of searching for the first letter of a title to the method disclosed by Schein and Markandey. The motivation for doing this would have been to simplify the hash function by implementing it by stripping the first letter off of the title, therefore simplifying the computation burden of the hash function.

Claims 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Markandey as applied to claims 41-47 above, and further in view of Etheredge.

Referring to claim 49, Schein does not disclose an apparatus of claim 41 further comprising means for determining whether to store the television program data in the memory based on a predetermined storage criterion.

Etheredge discloses an apparatus of claim 41 further comprising means for determining whether to store the television program data in the memory based on a predetermined storage criterion (column 8, lines 54-59, 64-66).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to only download the data required as disclosed in Etheredge. The motivation for doing this would have been to reduce the amount of data that the search function would need to search through therefore enabling it to search quicker than if it didn't selectively download programming data.

Referring to claim 50, Schein does not disclose an apparatus of claim 49, wherein the predetermined storage criterion is a program category.

Etheredge discloses an apparatus of claim 49, wherein the predetermined storage criterion is a program category (column 11, lines 22-27).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to only download the data required as disclosed in Etheredge. The motivation for doing this would have been to reduce the amount of data that the search function would need to search through therefore enabling it to search quicker than if it didn't selectively download programming data.

Referring to claim 51, Schein does not disclose an apparatus of claim 49, wherein the predetermined storage criterion is a channel that has been enabled.

Etheredge discloses an apparatus of claim 49, wherein the predetermined storage criterion is a channel that has been enabled (column 21, lines 17-21).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to only download the data required as disclosed in Etheredge. The motivation for doing this would have been to reduce the amount of data that the search function would need to search through therefore enabling it to search quicker than if it didn't selectively download programming data.

Claims 52-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Markandey.

Referring to claim 52, Schein discloses an apparatus for displaying television program information comprising (column 2, lines 21-22): a memory storing television program data including a hash portion and a data portion (column 7, lines 52-59); a user

input receiving a user-provided search criterion (column 19, lines 22-24); and a processor (figure 3, part 100) coupled to the memory (figure 3, part 102) and the user input (figure 3, part 114), the processor including program instructions for filtering the television program data based on information stored in the hash portion (column 12, lines 5-10), the filter excluding the television program data for a further search if no match is made between the information in the hash portion and the user-provided search criterion (Note: by definition of searching a hash function, a limited search is performed of the hash data, and then if results are found another search of the actual data is performed; therefore the search would not be continued if the hash search did not net any results).

Schein does not disclose an apparatus where the header data is used in place of hash data.

Markandey discloses an apparatus that transmits hash values in a header (column 6, lines 20-21).

At the time of the invention it would have been obvious for a person of ordinary skill in the art to send the hash data in a header transmitted with the video data being transmitted. The motivation for doing this would be to perform the hash function on a remote computer with an excess of computing power instead of locally on the subscriber box, which might tax the processor.

Referring to claim 53, Schein discloses an apparatus of claim 52, wherein the data portion includes program information of television programs to be broadcast by a particular channel (column 9, lines 30-31).

Referring to claims 54 and 55, Schein discloses an apparatus of claim 52, wherein the header portion indicates one or more program categories of one or more television programs (column 10, lines 13-14), wherein the one or more program categories are represented by one or more indexing bits (figure 7B; Note: the index ID is shown as taking up 2 bytes, or 16 bits).

Referring to claims 56 and 57, Schein discloses an apparatus of claim 52, wherein the header portion indicates one or more first letters of one or more television programs (column 10, lines 2-3), wherein the one or more first letters are represented by one or more indexing bits (figure 7A).

Referring to claim 58, Schein discloses an apparatus of claim 52, wherein the search criterion is a program category (column 11, lines 15-20).

Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Markandey as applied to claims 52-58 above, and further in view of Noble.

Schein does not disclose an apparatus of claim 52, wherein the search criterion is a first letter of a program title.

Noble discloses an apparatus of claim 52, wherein the search criterion is a first letter of a program title (column 11, lines 6-11).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the method of searching for the first letter of a title to the method disclosed by Schein and Markandey. The motivation for doing this would have been to

simplify the hash function by implementing it by stripping the first letter off of the title, therefore simplifying the computation burden of the hash function.

Claims 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schein in view of Markandey as applied to claims 52-58 above, and further in view of Etheredge.

Referring to claim 60, Schein does not disclose an apparatus of claim 52 further comprising means for determining whether to store the television program data in the memory based on a predetermined storage criterion.

Etheredge discloses an apparatus of claim 52 further comprising means for determining whether to store the television program data in the memory based on a predetermined storage criterion (column 8, lines 54-59, 64-66).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to only download the data required as disclosed in Etheredge. The motivation for doing this would have been to reduce the amount of data that the search function would need to search through therefore enabling it to search quicker than if it didn't selectively download programming data.

Referring to claim 61, Schein does not disclose an apparatus of claim 60, wherein the predetermined storage criterion is a program category.

Etheredge discloses an apparatus of claim 60, wherein the predetermined storage criterion is a program category (column 11, lines 22-27).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to only download the data required as disclosed in Etheredge. The motivation for doing this would have been to reduce the amount of data that the search function would need to search through therefore enabling it to search quicker than if it didn't selectively download programming data.

Referring to claim 62, Schein does not disclose an apparatus of claim 60, wherein the predetermined storage criterion is a channel that has been enabled.

Etheredge discloses an apparatus of claim 60, wherein the predetermined storage criterion is a channel that has been enabled (column 21, lines 17-21).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to only download the data required as disclosed in Etheredge. The motivation for doing this would have been to reduce the amount of data that the search function would need to search through therefore enabling it to search quicker than if it didn't selectively download programming data.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Guhu, U.S. Patent Number 5,897,637 discloses a method for searching for an item located within a file using hashing.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin E. Shepard whose telephone number is (571) 272-5967. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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